

In the United States Patent & Trademark Office

In re New Patent Application of:
Rose, K. *et al.*

Serial No.: To Be Assigned

Filed: Herewith

For: **Polyoxime Compounds and Their
Preparation**

Examiner: To Be Assigned

Art Unit: To Be Assigned

Atty. Dkt.: 3504.244-CON
GRFN 001/05-US

Information Disclosure Statement Pursuant to 37 C.F.R. § 1.97(b)(1)

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. Copies of the cited documents can be found in the files of U.S. Patent Application Serial Nos. 08/537,928, or 09/633,269, from which the present application claims priority.

The Examiner is requested to contact the undersigned in the event that any of the cited documents cannot be located, so that replacement copies can be expeditiously provided.

This Information Disclosure Statement is being submitted prior to an Initial Office Action. No fee is accordingly believed due for consideration of this Information Disclosure Statement. However, if the Commissioner determines that an additional fee is required in for consideration of this Information Disclosure Statement, the U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any

overpayment, to Deposit Account No. 50-0548 referencing docket number 3504.244-CON.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application.

Applicants do not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

The listed documents are:

U.S. Patents

AA1	4,444,744	Goldenberg
AB1	4,507,466	Tomalia et al.
AC1	4,622,420	Meares et al.
AD1	4,652,440	Paik et al
AE1	4,659,839	Nicolotti
AA2	4,678,667	Meares et al.
AB2	4,707,352	Stavrianopoulos
AC2	4,857,599	Tomalia et al.
AD2	4,861,581	Epstein et al.
AE2	4,865,835	Begent
AA3	4,918,164	Hellstrom
AB3	5,011,676	Thakur
AC3	5,084,266	McKenzie
AD3	5,087,616	Myers
AE3	6,001,364	Rose et al.
AA4	6,174,530	Rose et al.
AB4	6,217,873	Rose et al.

Foreign Patent Documents

AL1	EP 131 361
AM1	EP 243 929
AN1	EP 498 771
AL2	EP 525 992
AM2	WO 85/05638
AN2	WO 88/03414
AL3	WO 90/02135
AM3	WO 91/13097
AN3	WO 92/05802
AL4	WO 94/25071

Other Documents

- AR1 Altmann, K.H. & Mutter, M., "A General Strategy for the De Novo Design of Proteins-Template Assembled Synthetic Proteins", *Int. J. Biochem.*, Vol. 22:947-956 (1990)
- AS1 Antoni et al., "A Short Synthetic Peptide Fragment of Human Interleukin 1 With Immunostimulatory but not Inflammatory Activity", *J. Immunol.*, Vol. 137:3201-3204 (1986)
- AT1 Argos, P., "An Investigation of Oligopeptides Linking Domains in Protein Tertiary Structures and Possible Candidates for General Gene Fusion" *J Mol. Biol.*, Vol. 211: 943-958. (1990)
- AR2 Bagutti, et al., "Histochemistry of Receptors", *Prog. Histochem. Cytochem.*, Vol. 26:110-118 (1992)
- AS2 Biancalana et al., "Tactics and Strategies in Solid Phase Peptide Synthesis: New Directions, Methods and Applications", *Innovation and Perspectives in Solid Phase Synthesis*, R. Epton (ed.) Intercept Limited, pp. 135-152 (1992)
- AT2 Brinkley, M., "A Brief Survey of Methods for Preparing Protein Conjugates With Dyes, Haptens, and Cross-Linking Reagents", *Biocong. Chem.*, Vol. 3:2-13 (1992)
- AR3 Brocklehurst and Little, "Reactivities of the Various Protonic States in the Reactions of Papain and of L-Cysteine with 2,2'- and with 4,4'- Dipyridyl Disulphide: Evidence for Nucleophilic Reactivity in the Un- ionized Thiol Group of the Cysteine-25 Residue of Papain Occasioned by its Interaction with the Histidine-159-Asparagine-175 Hydrogen-Bonded System", *Biochem. J.*, Vol. 128:471-474 (1972)
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- AS4 Carlsson, J. et al., "Protein Thiolation and Reversible Protein-Protein Conjugation", *Biochem. J.*, Vol. 173:723-737 (1978)
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- AR5 Crothers, D.M. et al., "The Influence of Polyvalency on the Binding Properties of Antibodies," *Immunochem.* 9:341-357 (1972)

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- AS6 Drijfhout, J.W., and Bloemhoff, W., "A New Synthetic Functionalized Antigen Carrier", Int. J. Peptide Protein Res., Vol. 37:27-32 (1991)
- AT6 Ernest et al., "Synthesis of A 4-Helix Bundle-Like Template-Assembled Synthetic Protein (TASP) by Condensation of a Protected Peptide on a Conformationally Constrained Cyclic Carrier", Tetrahedron Letters, Vol. 31(28) :4015-4018 (1990)
- AR7 Fisch et al., "Site-specific Modification of Antibodies by Enzyme-assisted Reverse Proteolysis", Peptides 1990. E. Giralt & D. Andreu (eds .) ESCOM Science Publishers B.V. The Netherlands, pp. 819-821 (1991)
- AS7 Floegel et al., "Molecular Dynamics Conformational Search of six Cyclic Peptides Used in the Template Assembled Synthetic Protein Approach for Protein De Novo Design", Biopolymers, Vol. 32:1283-1310 (1992)
- AT7 Gaertner, H.F., et al., "Construction of Protein Analogues by Site-Specific Condensation of Unprotected Fragments", Vol. 3:262-268 (1992)
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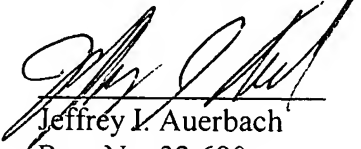
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- AR26 Werlen, R.C. et al., "Site-Specific Immunoconjugates, " *Tumor Targeting* Vol. 1:251-258 (1995)
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Applicants respectfully request that the documents listed on the accompanying Form PTO 1449 be considered and made of record in the present application. Applicants further request that the Examiner initial and return a copy of the enclosed PTO-1449, and to indicate in the official file wrapper of this patent application that the documents have been considered.

While the listed references are considered relevant to the prosecution of the present application, it is submitted that the references, either alone or in combination, do not detract from the patentability of the claimed invention.

Respectfully Submitted,

Date: 20-Oct-2003
Liniak, Berenato, Longacre & White, LLC
6550 Rock Spring Drive, Suite 240
Bethesda, MD 20817
Telephone: (301) 896-0600
Facsimile: (301) 896-0607


Jeffrey L. Auerbach
Reg. No. 32,680
Attorney for Applicants

PTO 1449				Page 1 of 7			
INFORMATION DISCLOSURE STATEMENT				Atty Dkt: 03504-244-CON		Serial No. To be Assigned	
Title: Polyoxime Compounds and Their Preparation				Applicant: OFFORD, Robin E. <i>et al.</i>			
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U.S. PATENT DOCUMENTS							
Examiner's Initial		Patent Number	Date (mm/dd/yyyy)	Name	Class	Sub- Class	Filing Date (mm/dd/yyyy)
	AA1	4,444,744	4/24/84	Goldenberg	424	1.1	9/3/82
	AB1	4,507,466	3/26/85	Tomalia et al.	528	332	1/7 /83
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FOREIGN PATENT DOCUMENTS							
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	AL1	EP 131 361	1/16/85	European Patent Appln.	C07K	17/08	No
	AM1	EP 243 929	11/4/87	European Patent Appln.	C07K	15/00	No
	AN1	EP 498 771	8/12/92	European Patent Appln.	A61K	49/02	No
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	AA2	4,678,667	7/7/87	Meares et al.	424	85	7/2/85
	AB2	4,707,352	11/17/87	Stavrianopoulos	424	1.1	1/3/0/84
	AC2	4,857,599	8/15/89	Tomalia et al.	525	259	2/8/88
	AD2	4,861,581	8/29/89	Epstein et al.	424	1.1	12/5/86
	AE2	4,865,835	9/12/89	Begent	424	1.1	5/27/86
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	AL2	EP 525 992	2/3/93	European Patent AppIn.	A61K	47/48	No
	AM2	WO 85/05638	12/1985	WIPO	C12Q	1/00	No
	AN2	WO 88/03414	5/19/88	WIPO	A61L	2/08	No
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	AA3	4,918,164	4/17/90	Hellstrom	530	387	11/4/87
	AB3	5,011,676	4/30/91	Thakur	424	1.1	3/27/90
	AC3	5,084,266	1/28/92	McKenzie	424	9	2/2/89
	AD3	5,087,616	2/11/92	Myers	514	21	8/6/87
	AE3	6,001,364	12/14/99	Rose et al.	424	193.1	8/31/93
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	AL3	WO 90/02135	3/8/90	WIPO	C07K	3/08	No
	AM3	WO 91/13097	9/5/91	WIPO	C07K	17/00	No
	AN3	WO 92/05802	4/92	WIPO	A61K	39/44	No
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	AR9	Hermanson, G.T. "Bioconjugate Techniques," Academic Press, Inc., San Diego, CA pp. 147- 148 (1995)					
	AS9	Hobbs et al., "Identification of a Lymphocyte-Activating Pentapeptide Sequence in the Fc Region of Human. IgG11", J. Immunol., Vol. 138:2581-2586 (1987)					
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	AS10	Houghton et al., "Generation and use of Synthetic Peptide Combinatorial. Libraries for Basic Research and Drug Discovery", Nature, Vol. 354:84-86 (1991)					
	AT10	Jackson, D.C. & Brown, L.E., "A synthetic Peptide of Influenza Virus Hemagglutinin as a Model Antigen\and Immunogen", Peptide Research, Vol. 4:114-124 (1991)					
	AR11	Jung et al., "Modern Methods in Multiple Peptide Synthesis and Multiple Peptide Analysis", Solid Phase Synthesis R. Epton (ed). Intercept. Andover. UK, pp. 227-235 (1992)					
	AS11	Kaumaya et al, "Template Vaccine Strategy Bypasses Haplotype-Restricted Immune Responses", <u>Peptides</u> . C.H. Schneider & A.N. Eberle (eds.) ESCOM Science" Publishers B.V., Columbus. OH, pp. 139-141 (1993)					
	AT11	King et al. "Preparation of Protein Conjugates via Intermolecular Hydrazone Linkage", Biochemistry, Vol. 25:5774-5779 (1986)					
	AR12	Kneko et al., "New Hydrazone Derivatives of Adriamycin and Their Immunoconjugates-a Correlation Between Acid Stability and Cytotoxicity", Biocong. Chem., Vol. 2:133-141 (1991)					
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	AA4	6,174,530	1/16/01	Rose et al.	424	193.1	8/31/93
	AB4	6,217,873	4/17/01	Rose et al.	424	193.1	5/5/94
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	AR13	Matsumoto, H. et al., "Optimum Cross-linking Spacer Length of Dimeric Neurokinin B Analogs for Interaction with NK-1 tachykinin Receptors," Bull. Chem. Soc. Jpn. Vol. 66:196-204 (1993)					
	AS13	Moore, J.S., "Carborod Molecular Scaffolding", Nature, Vol. 361:118-119 (1993)					
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	AT14	Mutter et al., "The Construction of New Proteins: V.A. Template-Assembled Synthetic Protein (TASP) Containing Both a 4-Helix Bundle and -Barrel-like Structure", Proteins: Structure. Function & Genetics, Vol.5:13-21 (1989)					
	AR15	Nencioni et al, "In Vivo Immunostimulating Activity of the 163-171 Peptide of Human IL-1", J. Immunol., Vol. 139:800-804 (1987)					
	AS15	Nyanguile, et al., "Synthesis of Antiparallel 4a-helix Bundle TASP by Chemoselective Ligation, Letters in Peptide Science, Vol. 1:9-16 (1994)					
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	AS25	Vilaseca et al., "Synthesis and Use of a Defined Oligomer for Targeted Drug Therapy", Peptides, C.H. Schneider & A.N. Eberle (eds .) ESCOM Science Publishers B.V., Geneva. Switzerland, pp.819-820 (1993)					
	AT25	Webb, et al., "Synthesis of 1-(Aminooxy)-4[3-Nitro-2-Pyridyl] Dithio] Butane and 1- (Aminooxy)-4-[3-Nitro-2-Pyridyl] Dithio] But-2-ene, Novel Heterobifunctional Cross-Linking Reagents," Bioconjugate Chem., Vol. 1:96-99 (1990)					
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	AS26	Werlen, R.C., "Preparation Of A Trivalent Antigen-Binding Construct Using Poly oxime Chemistry: Improved Distribution And Potential For Therapeutic Application," Canc. Res. Vol. 56:809-815 (1996)					
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